```
Trying 01180...Open

PLEASE ENTER HOST PORT ID:
PLEASE ENTER HOST PORT ID:x
LOGINID:d2701ws
PASSWORD:
TERMINAL (ENTER 1, 2, 3, 4, OR ?): 3

 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 *                                                             *
 *           Welcome to MESSENGER (APS Text) at USPTO          *
 *                                                             *
 *                                                             *
 *    The USPTO production files are current through:          *
 *    September 21,1999  for U.S. Patent Text Data.                *
 *    September 21,1999  for U.S. Current Classification Data.     *
 *    September 21,1999  for U.S. Patent Image Data.               *
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 *       * PLEASE USE 305-9000 FOR NEW TELEPHONE NUMBER *      *
 *                                                             *
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 * More U.S. patent data is now available on APS.  The new     *
 * USOCR file contains patents issued in 1970, plus some       *
 * patents that were missing from the USPAT file.  See the     *
 * Patents News Folder under the Public Folders in e-mail for  *
 * more information on using the new file.  Thank you.         *
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 *  DISCLAIMER:                                                *
 *  Neither the United States Government, nor any agency       *
 *  thereof, nor any of their contractors, subcontractors or   *
 *  employees make any warranty, expressed or implied,         *
 *  including any warranty of marketability of fitness for a   *
 *  particular purpose; nor assumes any legal liability or     *
 *  responsibility for any party's use, or the results of      *
 *  such, of the data.                                         *
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 *                Help Desk --> 703-305-9000                   *
 *                                                             *
 *    The Help Desk is staffed for APS support 7 days/week.    *
 *      Monday through Friday:      6:30am - 9:00pm            *
 *      Saturday, Sunday, Holidays: 8:30am - 5:00 pm           *
 *                                                             *
 *    The Help Desk staff at this number will handle all APS   *
 *    related questions.                                       *
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 *    >>>>>>>>>>>>> NEW SUNDAY HOURS !!! <<<<<<<<<<<<<<        *
 *                                                             *
 *    The APS is available:                                    *
 *           6:30am - 9:00pm Monday through Friday             *
 *           7:30am - 5:00pm Saturday, Sunday, Holidays        *
 *                                                             *
 *      APS is unavailable Thanksgiving Day, Christmas Day,    *
 *      and New Year's Day.                                    *
 *                                                             *
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FILE 'USPAT' ENTERED AT 12:00:39 ON 24 SEP 1999
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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*        U. S.   P A T E N T   T E X T   F I L E              *
*                                                              *
*  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT            *
*  THROUGH September 21, 1999.                                 *
*                                                              *
*                                                              *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

```
=> s (closest (w) point?) (p) vector? (p) (collid? or collis? or contact?)
(p) force (p) (zero or 0)

         71839 CLOSEST
       1339263 POINT?
         81164 VECTOR?
         22668 COLLID?
         35515 COLLIS?
       1094615 CONTACT?
        675481 FORCE
        362214 ZERO
        634494 0
L1           0 (CLOSEST (W) POINT?) (P) VECTOR? (P) (COLLID? OR COLLIS? OR
 CO
               NTACT?) (P) FORCE (P) (ZERO OR 0)

=> s (closest (w) point?) (p) vector? (p) force (p) (zero or 0)

         71839 CLOSEST
       1339263 POINT?
         81164 VECTOR?
        675481 FORCE
        362214 ZERO
        634494 0
L2           1 (CLOSEST (W) POINT?) (P) VECTOR? (P) FORCE (P) (ZERO OR 0)

=> d l2 ccls in hit
```

US PAT NO: 5,445,439 [IMAGE AVAILABLE]   L2: 1 of 1
US-CL-CURRENT: 301/55, 58
INVENTOR: Rolf Dietrich, 42193 Clemons Dr., Plymouth, MI 48170

ABSTRACT:
A tensioned spoked wheel assembly with a wheel center plane is disclosed. The wheel comprises a hub with a first hub flange on one side of the wheel center plane and a second hub flange on the other side of the wheel center plane, a rim and spokes or other tensioning means. The spokes which are connected to the first hub flange are, in turn, connected to the rim at a first set of circumferentially spaced points and spokes which are connected to the second hub flange are, in turn, connected to the rim at points which are circumferentially coincident with the first set of circumferentially spaced points. In other words, spokes or tensioning members from first and second hub flanges are paired or grouped at the rim so as to provide a wheel which exhibits, under load, **zero**, or substantially reduced, by comparison with the prior art, net **force vectors** parallel to the rotational axis, at any and all given points on the rim, as opposed to a wheel where a spoke from the first hub flange is attached to the rim at a point which is circumferentially spaced a substantial distance from the **closest point** on the rim where a spoke from the second hub flange is

connected. Bicycles having a front wheel, a rear wheel, or a front and rear wheel according to the invention are also disclosed. The bicycle is not susceptible to speed shimmy or wobble, when it includes a front wheel according to the invention.

```
=> s (closest (w) point?) (p) vector? (p) (zero or 0)

         71839 CLOSEST
       1339263 POINT?
         81164 VECTOR?
        362214 ZERO
        634494 0
L3          14 (CLOSEST (W) POINT?) (P) VECTOR? (P) (ZERO OR 0)

=> d 13 1-14 ccls in hit


US PAT NO:      5,909,663 [IMAGE AVAILABLE]          L3: 1 of 14
US-CL-CURRENT: 704/226, 214, 220, 222
INVENTOR:       Kazuyuki Iijima, Saitama, Japan
                Masayuki Nishiguchi, Kanagawa, Japan
                Jun Matsumoto, Kanagawa, Japan
```

DETDESC:

DETD(125)

The matrix W may be calculated from the frequency response of the above equation (23). For example, FFT is executed on 256-point data of 1, .alpha.1.lambda.b, .alpha.2.lambda.1b.sup.2, ...alpha.p.lambda.b.sup.p, **0**, **0**, . . . , **0** to find (r.sub.e.sup.2 [i]+Im.sup.2 [i]).sup.1/2 for a domain from **0** to .pi., where **0**.ltoreq.i.ltoreq.128. The frequency response of the denominator is found by 256-point FFT for a domain from **0** to .pi. for 1, .alpha.1.lambda.a, .alpha.2.lambda.a.sup.2, . . . , .alpha.p.lambda.a.sup.p, **0**, **0**, . . . , **0** at 128 points to find (re'.sup.2 [i]+im'.sup.2 [i]).sup.1/2, where **0**.ltoreq.i.ltoreq.128. The frequency response of the equation 23 may be found by ##EQU17## where **0**.ltoreq.i.ltoreq.128. This is found for each associated point of for example, the 44-dimensional **vector**, by the following method. More precisely, linear interpolation should be used. However, in the following example, the **closest point** is used instead.

```
US PAT NO:      5,848,387 [IMAGE AVAILABLE]          L3: 2 of 14
US-CL-CURRENT: 704/214, 219, 220, 223
INVENTOR:       Masayuki Nishiguchi, Kanagawa, Japan
                Kazuyuki Iijima, Saitama, Japan
                Jun Matsumoto, Kanagawa, Japan
                Shiro Omori, Kanagawa, Japan
```

DETDESC:

DETD(120)

The matrix W may be calculated from the frequency response of the above equation (23). For example, FFT is done on 256-point data of 1, .alpha.1.lambda.b, .alpha.2.lambda.1b.sup.2, ...alpha.p.lambda.b.sup.P, **0**, **0**, . . . , **0** to find (r.sub.e.sup.2 [i]+Im.sup.2 [i]).sup.1/2 for a domain from **0** to .pi.,

```
* * * * * * * * * * *   * * * * * * * * * * * * * * *   * * *
*         U. S.   P A T E N T   T E X T   F I L E           *
*                                                           *
*  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT         *
*  THROUGH September 21, 1999.                             *
*                                                           *
*                                                           *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

```
=> s animat? and ((collid? or collis? or contact?) (p) (body or bodi?)) and
human? and (5835693/pn or 5757360/pn or 5747719/pn or 5493185/pn or
4824417/pn)

          6127 ANIMAT?
         22668 COLLID?
         35515 COLLIS?
       1094615 CONTACT?
        684507 BODY
        121489 BODI?
        166304 (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR BODI?)
        207467 HUMAN?
             1 5835693/PN
             1 5757360/PN
             1 5747719/PN
             1 5493185/PN
             1 4824417/PN
L1           5 ANIMAT? AND ((COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
               I?)) AND HUMAN? AND (5835693/PN OR 5757360/PN OR 5747719/PN
 OR
                5493185/PN OR 4824417/PN)

=> d l1 1-5 ccls in hit
```

```
US PAT NO:        5,835,693 [IMAGE AVAILABLE]         L1: 1 of 5
US-CL-CURRENT:    345/473; 700/260, 263
INVENTOR:         James D. Lynch, 247 N. Sheldon #22, Ames, IA 50014
                  Martin J. Vanderploeg, 202 S. Dakota Ave., Ames, IA 50014
```

DETDESC:

DETD(23)

FIG. 21 shows the **bodies** as depicted in FIG. 20, wherein surface 2007 has been slid relative to surface 2008, such that they **contact** at two different points along their respective surfaces, relative to the display shown in FIG. 20.

DETDESC:

DETD(33)

VIMS provides the capability to visually construct general multibody systems and perform kinematic, dynamic, force, and optimized solutions. Multibody systems including open and closed-loop, three dimensional, rigid-**body** systems may be modeled. Currently, the software supports combinations of revolute, universal, spherical, translational, cylindrical, screw, arbitrary three dimensional surface **contact** joints, and cable/pulley systems. These complex surface **contact** joints and cable/pulley systems present many unusual and complex **body** interactions. The interactive environment provided here is ideal for manipulating and visualizing complex systems such as these.

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*        U. S.   P A T E N T   T E X T   F I L E                *
*                                                               *
*  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT             *
*  THROUGH September 21, 1999.                                 *
*                                                               *
*                                                               *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

=> s 5625575/pn and ((time? (p) (show? or ?display? or LCD or screen? or monitor# or TV or (picture (w) tube?) or CRT or CGA or EGA or VGA or SVGA or VDU)

UNMATCHED LEFT PARENTHESIS 'AND ((TIME?'

=> s 5625575/pn and (time? (p) (show? or ?display? or LCD or screen? or monitor# or TV or (picture (w) tube?) or CRT or CGA or EGA or VGA or SVGA or VDU))

```
             1 5625575/PN
COMMAND INTERRUPTED
```

=> s 5625575/pn and (time? (p) (show? or ?display? or LCD or screen? or monitor#))

```
             1 5625575/PN
COMMAND INTERRUPTED
YOU HAVE RECEIVED THIS ERROR MESSAGE  2 CONSECUTIVE TIMES
If this message appears repeatedly, or for further help, please
contact your Help Desk.
IF YOU REQUIRE FURTHER HELP, PLEASE CONTACT YOUR LOCAL HELP DESK
=> s 5625575/pn and compress?

             1 5625575/PN
        515683 COMPRESS?
L1           1 5625575/PN AND COMPRESS?
```

=> d l1 hit

US PAT NO: **5,625,575** [IMAGE AVAILABLE]   L1: 1 of 1

DETDESC:

DETD(23)

This contact model allows estimation of both normal and tangential components of contact force. Depending on the model, both these components can also be discontinuous. Contact forces (and the resulting accelerations) can evolve rapidly during impact or during the making and breaking of a contact, therby imbuing the contact model with a time scale that may be much **compressed** compared to that for free motion of the bodies. In turn, this variation in time scale may lead to discontinuous and stiff differential equations as governing equations for the system.

DETDESC:

DETD(129)

The SE associated with the vertex is connected to it through two pairs (601, 603) of massless springs and dampers. One of the spring damper

pairs, called the normal spring (k.sub.1n) and damper (c.sub.1n), (601(1)) is constrained to be along n. The only deformation permitted for the normal spring is **compressive**. This is because objects do not pull at each other at contact, but push. The other pair, the tangential spring and damper (k.sub.1t and c.sub.1t), (603(1)) always stays in a plane parallel to P.sub.t. Their orientation in this plane is parallel to the direction of slip between the contacting SE's. A similar arrangement of springs and dampers (601(2), 603(2)) connects the SE associated with the face. Spring and damper constants for each element can be turned to model material behavior of the underlying polyhedra, as shown in succeeding sections. Given this mechanism, a typical VF contacts evolves as follows.

DETDESC:

DETD(135)

Each individual VF or EE contact is tracked through four state variables that are appended to the state variable array for the entire system in current state 123. They are s.sub.1n, s.sub.2n to track the lengths of the normal springs k.sub.1n, k.sub.2n, and s.sub.1t, s.sub.2st to track the lengths of the tangential springs k.sub.1t and k.sub.2t. They are initialized to zero at beginning of contact. The fact that only **compressive** deformation of normal springs is allowed implies that s.sub.1n.n.ltoreq.0 and s.sub.2n.n.gtoreq.0.

DETDESC:

DETD(245)

Virtual contacts are contacts that must be included in the contact state even though there is actually no interference between the objects involved. They can arise when the location of an initial contact is determined by linear interpolation, as shown in FIG. 15(a). The system is integrated forward by the current integration time step, dt, from t.sub.1 to t.sub.2. At t.sub.1, with the vertex at v.sub.1, there is no interference between objects A and B. At t.sub.2, with the vertex at v.sub.2, there is interference. Linear interpolation predicts motion along the dotted line, resulting in a predicted initial contact at time t.sub.c (t.sub.1 .ltoreq.t.sub.c .ltoreq.t.sub.2). The equations of motion are now integrated forward to t.sub.c, with the vertex reaching position v.sub.c. It is possible, however, that we have backed up too far, and no interference occurs at t.sub.c, as shown in FIG. 15(a). Nonetheless, we assume that the one-step interpolation technique achieved sufficient accuracy and include the contact as a new contact in the contact state of contact list 125, C.sub.c, at time t.sub.c. The contact is treated as if initial contact occurred at the interpolated position. The virtual contact remains in the contact-list 125 at subsequent times as a continuing contact as long as the spring-damper force for the contact remains positive (**compressive**).

=> s animat? (p) (collid? or collis? or contact?) (p) (body or bodi?)

```
          6127 ANIMAT?
         22668 COLLID?
         35515 COLLIS?
       1094615 CONTACT?
        684507 BODY
        121489 BODI?
L2          47 ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR B
ODI
```

```
     (FILE 'USPAT' ENTERED AT 12:00:39 ON 24 SEP 1999)
L1             1 S 5625575/PN AND COMPRESS?
L2            47 S ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY O
R B

=> file epo jpo; s animat? (p) (collid? or collis? or contact?) (p) (body or
bodies?)

FILE 'EPO' ENTERED AT 12:45:01 ON 24 SEP 1999

  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                         G P I                                 *
  *     E U R O P E A N   P A T E N T   A B S T R A C T S        *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


FILE 'JPO' ENTERED AT 12:45:01 ON 24 SEP 1999

  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                         G P I                                 *
  *     J A P A N E S E   P A T E N T   A B S T R A C T S        *
  *                                                               *
  *     THE FILE IS CURRENT THROUGH APRIL 31, 1999.               *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


FILE 'EPO'
          1246 ANIMAT?
          1043 COLLID?
          4471 COLLIS?
        227965 CONTACT?
        205532 BODY
         21467 BODIES?
L3             7 ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR B
ODI
               ES?)

FILE 'JPO'
          1879 ANIMAT?
         17354 COLLID?
         18479 COLLIS?
        469932 CONTACT?
        643784 BODY
         53884 BODIES?
L4             2 ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR B
ODI
               ES?)

TOTAL FOR ALL FILES
L5             9 ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR B
ODI
               ES?)

=> d l5 1-9 in ab

US005731821A                                        L5: 1 of 9
```

US004415979A

INVENTOR: HERNANDEZ, WALTER C (US)

ABSTRACT:

The present invention provides a method and detection system for determining whether a person or other **animate body** is present in a vehicle by analyzing the power of the output signal from a geophone placed in **contact** with the vehicle structure. First an electrical signal is obtained which is a function of the vibrations emanating from the structure, and this signal is sampled on a contiguous basis over a plurality of time periods of equal duration. From these samples, a determination is then made as to whether a dense accumulation of power exists in the vicinity of the lowest power point of the sampled time periods and whether this lowest power point is above a predetermined minimum level. The system for accomplishing this method may include a seismic transducer used as a sensing device and a micro-computer for processing the output signals from the seismic transducer. The micro-computer will, on a continguous basis, sample about 22/3 seconds of data at a time. The total power from each of these 22/3 second data segments is calculated. If the computer sees that there is a dense accumulation of power at the lowest power point and above and that this is larger than a minimum requirement, then it will signal the presence of one or more concealed persons. There is a variable operating time as the computer continuously accumulates new data and, hence, new power points. It will collect data until it has sufficient information to make a reliable decision. In a quiet environment this may be 6-10 seconds whereas, in a noisy environment it may be two minutes or longer.

US003858353A

INVENTOR: GLASS, MARVIN I
TERZIAN, ROUBEN

ABSTRACT:

An **animated** doll comprising a **body** having relatively movable upper and lower torso portions, a head movably mounted relative to the torso, and a pair of movable arms. The arms are connected with circuitry for actuating a motor in the interior of the torso, with the motor being associated with drive means for moving the upper torso in a reciprocal tilting or toggle motion about a horizontal axis relative to the lower torso. Each arm is associated with separate **contacts** in the circuitry for actuating the motor and a resistance means is provided between the **contacts** for changing the amount of power supplied to the motor, and therefore the speed thereof, depending on which arm is moved to an actuating position. In addition, the head is movable about a vertical axis facing one side or the other depending on which arm is moved to actuating position.

JP409238944A

INVENTOR: HIRUTA, MASAHIRO
IWASHITA, NOBUSHI

ABSTRACT:

PROBLEM TO BE SOLVED: To enable displaying of a desired image as a still image by switching an image control section between an animation image mode and a still image mode based on interaction of the tip part of an ultrasonic probe and a subject.

SOLUTION: A **contact** detection sensor 40 is provided at the tip part 20a of a probe 20 to determine whether the tip part 20a **contacts** a subject 51 and sends **contact** and non-**contact** information obtained by a **contact** detection sensor 40 to a control section 39. The control section 39 provides a command to a transmission/reception control section 35 and a digital scan conversion part 37 to move to a freezing position (still image mode) with a shift to non- **contact** from **contact** and to an **animation** image mode with the shift to **contact** from non-**contact**. Thus, when an image to be noted is shown on a CRT display, an operator of the ultrasonic diagnosing apparatus can simply separate the tip part of an ultrasonic probe from the **body** surface of a subject thereby highly improving operability when utilizing a freezing function.

JP408320659A L5: 9 of 9

INVENTOR: OTSUKA, KAZUHIKO
NOZAWA, HIRONAO
KOBAYASHI, TAKARA

ABSTRACT:

PURPOSE: To make it possible to enjoy images as variable images or stereoscopic images by housing printed matters with designs formed with the prescribed images into a housing part and viewing the printed matters through a lenticular lens of a case side plate.

CONSTITUTION: The side face plate atop a case 1 is formed as the lenticular lens 2. Cards 3 formed with the variable images are inserted from a card insertion port 6 of a card insertion part A. A part B is provided with a spring for pushing back the cards to push back the cards 3 pushed by the fingers. Further, a bottom plate 8 is provided with a leaf spring so as to bring the cards 3 into tight **contact** with the lenticular lens 2 surface. The cards 3 are brought into tight **contact** therewith not by points but by plane. In such a case, the case is provided with the spring to push back the cards 3 and therefore, the cards 3 are made automatically movable in parallel and the changing of two variations and the movement of the **animation** images are eventually such that only the images move while the main **body** of the card case 1 stays in the same state.

=> file uspat epo jpo

FILE 'USPAT' ENTERED AT 13:05:06 ON 24 SEP 1999

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*        U. S.   P A T E N T   T E X T   F I L E                *
*                                                               *
*  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT             *
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  *  THROUGH September 21, 1999.                                  *
  *                                                                *
  *                                                                *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

FILE 'EPO' ENTERED AT 13:05:06 ON 24 SEP 1999

  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                        G P I                                   *
  *     E U R O P E A N   P A T E N T   A B S T R A C T S          *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


FILE 'JPO' ENTERED AT 13:05:06 ON 24 SEP 1999

  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                        G P I                                   *
  *     J A P A N E S E   P A T E N T   A B S T R A C T S          *
  *                                                                *
  *     THE FILE IS CURRENT THROUGH APRIL 31, 1999.                *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


=> d hist


     (FILE 'USPAT' ENTERED AT 12:00:39 ON 24 SEP 1999)
L1              1 S 5625575/PN AND COMPRESS?
L2             47 S ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY O
R B

     FILE 'EPO, JPO' ENTERED AT 12:45:01 ON 24 SEP 1999
     FILE 'EPO'
L3              7 S ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY O
R B
     FILE 'JPO'
L4              2 S ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY O
R B
     TOTAL FOR ALL FILES
L5              9 S ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY O
R B

     FILE 'USPAT, EPO, JPO' ENTERED AT 13:05:06 ON 24 SEP 1999

=> s animat? (p) (collid? or collis? or contact?) (p) (body or bodi?) (p)
human

FILE 'USPAT'
<------User Break------>
u
SEARCH ENDED BY USER

=> s (animat? (p) (collid? or collis? or contact?) (p) (body or bodi?)) and
human

FILE 'USPAT'
<------User Break------>
u
SEARCH ENDED BY USER
```

```
=> s (animat? (p) (collid? or collis? or contact?) (p) (body or bodi?)) and
human?

FILE 'USPAT'
           6127 ANIMAT?
          22668 COLLID?
          35515 COLLIS?
        1094615 CONTACT?
         684507 BODY
         121489 BODI?
             47 ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR B
ODI
                ?)
         207467 HUMAN?
L6           24 (ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

FILE 'EPO'
           1246 ANIMAT?
           1043 COLLID?
           4471 COLLIS?
         227965 CONTACT?
         205532 BODY
          23385 BODI?
              7 ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR B
ODI
                ?)
          29710 HUMAN?
L7            0 (ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

FILE 'JPO'
           1879 ANIMAT?
          17354 COLLID?
          18479 COLLIS?
         469932 CONTACT?
         643784 BODY
          55030 BODI?
              2 ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR B
ODI
                ?)
          25762 HUMAN?
L8            0 (ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

TOTAL FOR ALL FILES
L9           24 (ANIMAT? (P) (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

=> s animat? and ((collid? or collis? or contact?) (p) (body or bodi?)) and
human?

FILE 'USPAT'
           6127 ANIMAT?
          22668 COLLID?
          35515 COLLIS?
```

```
        1094615 CONTACT?
         684507 BODY
         121489 BODI?
         166304 (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR BODI?)
         207467 HUMAN?
L10         137 ANIMAT? AND ((COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

FILE 'EPO'
           1246 ANIMAT?
           1043 COLLID?
           4471 COLLIS?
         227965 CONTACT?
         205532 BODY
          23385 BODI?
          22592 (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR BODI?)
          29710 HUMAN?
L11           0 ANIMAT? AND ((COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

FILE 'JPO'
           1879 ANIMAT?
          17354 COLLID?
          18479 COLLIS?
         469932 CONTACT?
         643784 BODY
          55030 BODI?
          87377 (COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR BODI?)
          25762 HUMAN?
L12           1 ANIMAT? AND ((COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

TOTAL FOR ALL FILES
L13         138 ANIMAT? AND ((COLLID? OR COLLIS? OR CONTACT?) (P) (BODY OR
BOD
                I?)) AND HUMAN?

=> d l12 in ab
```

JP409134428A   L12: 1 of 1

INVENTOR: NARA, YOSHIYUKI

ABSTRACT:

PROBLEM TO BE SOLVED: To make it possible to accurately, **contactlessly** and quickly identify a person even when a **human body** is changed with the lapse of time.

SOLUTION: A picture of a part (e.g. a face) or all of a **human** body is previously stored as two-dimensional picture data or three-dimensional picture data and the stored picture data are compared with picture data inputted by a picture input means (a CCD camera, a video camera, a digital still camera 100, or the like). In this case, prescribed deformation processing such as morphining processing or **animation**

```
  * * * * * * * * * * *   * * * * * * * * * * * * * * *   * * *
  *          U. S.   P A T E N T   T E X T   F I L E             *
  *                                                              *
  *  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT            *
  *  THROUGH September 21, 1999.                                *
  *                                                              *
  *                                                              *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

=> s (closest (w) point?) (p) vector? (p) (contact (w) force?)

          71839 CLOSEST
        1339263 POINT?
          81164 VECTOR?
         963669 CONTACT
         884616 FORCE?
L1             0 (CLOSEST (W) POINT?) (P) VECTOR? (P) (CONTACT (W) FORCE?)

=> file epo jpo

FILE 'EPO' ENTERED AT 09:02:24 ON 24 SEP 1999

  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                        G P I                                 *
  *     E U R O P E A N   P A T E N T   A B S T R A C T S        *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


FILE 'JPO' ENTERED AT 09:02:24 ON 24 SEP 1999

  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                        G P I                                 *
  *     J A P A N E S E   P A T E N T   A B S T R A C T S        *
  *                                                              *
  *     THE FILE IS CURRENT THROUGH APRIL 31, 1999.              *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


=> s (closest (w) point?) (p) vector? (p) (contact (w) force?)

FILE 'EPO'
           2715 CLOSEST
         160591 POINT?
          12970 VECTOR?
         171005 CONTACT
         149369 FORCE?
L2             0 (CLOSEST (W) POINT?) (P) VECTOR? (P) (CONTACT (W) FORCE?)

FILE 'JPO'
           3983 CLOSEST
         333571 POINT?
          19474 VECTOR?
         405432 CONTACT
         290225 FORCE?
L3             0 (CLOSEST (W) POINT?) (P) VECTOR? (P) (CONTACT (W) FORCE?)

TOTAL FOR ALL FILES
L4             0 (CLOSEST (W) POINT?) (P) VECTOR? (P) (CONTACT (W) FORCE?)
```

```
Trying 01082...Open

PLEASE ENTER HOST PORT ID:
PLEASE ENTER HOST PORT ID:x
LOGINID:d2701ws
PASSWORD:
TERMINAL (ENTER 1, 2, 3, 4, OR ?):□3

   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   *                                                             *
   *           Welcome to MESSENGER (APS Text) at USPTO          *
   *                                                             *
   *                                                             *
   *    The USPTO production files are current through:          *
   *    September 14,1999  for U.S. Patent Text Data.                *
   *    September 14,1999  for U.S. Current Classification Data.     *
   *    September 14,1999  for U.S. Patent Image Data.               *
   *                                                             *
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   *       * PLEASE USE 305-9000 FOR NEW TELEPHONE NUMBER *      *
   *                                                             *
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   * More U.S. patent data is now available on APS.  The new     *
   * USOCR file contains patents issued in 1970, plus some       *
   * patents that were missing from the USPAT file.  See the     *
   * Patents News Folder under the Public Folders in e-mail for  *
   * more information on using the new file.  Thank you.         *
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   *  DISCLAIMER:                                                *
   *  Neither the United States Government, nor any agency       *
   *  thereof, nor any of their contractors, subcontractors or   *
   *  employees make any warranty, expressed or implied,         *
   *  including any warranty of marketability of fitness for a   *
   *  particular purpose; nor assumes any legal liability or     *
   *  responsibility for any party's use, or the results of      *
   *  such, of the data.                                         *
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   *                Help Desk --> 703-305-9000                   *
   *                                                             *
   *    The Help Desk is staffed for APS support 7 days/week.    *
   *      Monday through Friday:      6:30am - 9:00pm            *
   *      Saturday, Sunday, Holidays: 8:30am - 5:00 pm           *
   *                                                             *
   *    The Help Desk staff at this number will handle all APS   *
   *    related questions.                                       *
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   *    >>>>>>>>>>>>> NEW SUNDAY HOURS !!! <<<<<<<<<<<<<<        *
   *                                                             *
   *    The APS is available:                                    *
   *            6:30am - 9:00pm Monday through Friday            *
   *            7:30am - 5:00pm Saturday, Sunday, Holidays       *
   *                                                             *
   *      APS is unavailable Thanksgiving Day, Christmas Day,    *
   *      and New Year's Day.                                    *
   *                                                             *
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
FILE 'USPAT' ENTERED AT 15:08:38 ON 17 SEP 1999
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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*        U. S.   P A T E N T   T E X T   F I L E                 *
*                                                                *
*  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT              *
*  THROUGH September 14, 1999.                                  *
*                                                                *
*                                                                *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

```
=> s animat?

L1         6107 ANIMAT?

=> s l1 and (collid? or collis? or contact?)

         22630 COLLID?
         35450 COLLIS?
       1093164 CONTACT?
L2          2139 L1 AND (COLLID? OR COLLIS? OR CONTACT?)

=> s l2 and position?

       1578100 POSITION?
L3          1835 L2 AND POSITION?

=> s l3 and shape?

       1173090 SHAPE?
L4          1182 L3 AND SHAPE?

=> s l4 and (object? or element? or body or bodi?)

       1666747 OBJECT?
       1082893 ELEMENT?
        683461 BODY
        121319 BODI?
L5          1157 L4 AND (OBJECT? OR ELEMENT? OR BODY OR BODI?)

=> s l5 and vector?

         80885 VECTOR?
L6           190 L5 AND VECTOR?

=> s l6 and (time (2a) interval?) and (?calculat? or reinitializ?) and force?
and display? and joint?

       1600894 TIME
        361181 INTERVAL?
        127704 TIME (2A) INTERVAL?
        395340 ?CALCULAT?
          3834 REINITIALIZ?
        883523 FORCE?
        313992 DISPLAY?
        227288 JOINT?
L7            13 L6 AND (TIME (2A) INTERVAL?) AND (?CALCULAT? OR REINITIALIZ
?)
               AND FORCE? AND DISPLAY? AND JOINT?

=> d l7 1-13 ccls in ab


US PAT NO:      5,846,086 [IMAGE AVAILABLE]             L7: 1 of 13
US-CL-CURRENT: 434/247, 307R, 365; 463/23; 473/43, 446, 447, 453, 461;
                  482/902
```

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 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 *         U. S.   P A T E N T   T E X T   F I L E            *
 *                                                            *
 *  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT          *
 *  THROUGH September 14, 1999.                              *
 *                                                            *
 *                                                            *
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

=> s animat? and (collid? or collis? or contact?) and position? and shape?
and (object? or element? or body or bodi?) and (data or information)

COMMAND INTERRUPTED

=> s animat?

L1         6107 ANIMAT?

=> s l1 and (collid? or collis? or contact?)

          22630 COLLID?
          35450 COLLIS?
        1093164 CONTACT?
L2         2139 L1 AND (COLLID? OR COLLIS? OR CONTACT?)

=> s l2 and position?

        1578100 POSITION?
L3         1835 L2 AND POSITION?

=> s l3 and shape?

        1173090 SHAPE?
L4         1182 L3 AND SHAPE?

=> s l4 and (object? or element? or body or bodi?)

        1666747 OBJECT?
        1082893 ELEMENT?
         683461 BODY
         121319 BODI?
L5         1157 L4 AND (OBJECT? OR ELEMENT? OR BODY OR BODI?)

=> s l5 and (data or information)

         524430 DATA
         415626 INFORMATION
L6          634 L5 AND (DATA OR INFORMATION)

=> s l6 and ((closest (w) point?) (p) vector?)

          71706 CLOSEST
        1337443 POINT?
          80885 VECTOR?
             82 (CLOSEST (W) POINT?) (P) VECTOR?
L7            2 L6 AND ((CLOSEST (W) POINT?) (P) VECTOR?)

=> s l5 and vector?

          80885 VECTOR?
```

```
L8          190 L5 AND VECTOR?

=> s 18 and (time (2a) interval?)

       1600894 TIME
        361181 INTERVAL?
        127704 TIME (2A) INTERVAL?
L9          44 L8 AND (TIME (2A) INTERVAL?)

=> s 19 and (?calculat? or reinitializ?)

        395340 ?CALCULAT?
          3834 REINITIALIZ?
L10         34 L9 AND (?CALCULAT? OR REINITIALIZ?)

=> s 110 and force?

        883523 FORCE?
L11         26 L10 AND FORCE?

=> s 111 and display?

        313992 DISPLAY?
L12         26 L11 AND DISPLAY?

=> s 112 and joint?

        227288 JOINT?
L13         13 L12 AND JOINT?

=> s 113 and (degree? (2w) freedom)

       1344751 DEGREE?
         63713 FREEDOM
         21486 DEGREE? (2W) FREEDOM
L14          3 L13 AND (DEGREE? (2W) FREEDOM)

=> s 113 and torque

        130562 TORQUE
L15          2 L13 AND TORQUE

=> s 115 and rotat?

        893156 ROTAT?
L16          2 L15 AND ROTAT?

=> s 116 and (degree? (2w) freedom)

       1344751 DEGREE?
         63713 FREEDOM
         21486 DEGREE? (2W) FREEDOM
L17          0 L16 AND (DEGREE? (2W) FREEDOM)

=> s 116 and euler

          1190 EULER
L18          0 L16 AND EULER

=> d 116 1-2 ccls in hit
```

FIG. 2a describes in an illustrative manner the geometric motion of a single polyelectrolyte piezoelectric Gel **element**;

DRAWING DESC:

DRWD(5)

FIGS. 2b and 2c are schematic representations of two solid state piezoelectric **elements**;

DRAWING DESC:

DRWD(6)

FIGS. 2d and 2e are pictorial representations of four separate and distinct piezoelectric **elements** and their respective electrode configuration;

DRAWING DESC:

DRWD(8)

FIGS. 3, 3a and 3b are perspective views of a single trilayer piezoelectric **element** grouping undergoing recursive voltage reversal;

DRAWING DESC:

DRWD(12)

FIG. 6a is a pictorial representation of a single polyelectrolytic Gel **element** undergoing photonic excitation from a ground state to an elevated state.

DRAWING DESC:

DRWD(19)

FIG. 7 is a concise graphical representation of an evoked potential propagated along the conducting axes of a piezoelectric **element**;

DRAWING DESC:

DRWD(20)

FIG. 7a describes in an illustrative manner the wave motion of a three dimensional piezoelectric structure of an arbitrary **shape**;

DRAWING DESC:

```
<------User Break------>
u
=> s l15 and (computer? or pc)

        260044 COMPUTER?
         39406 PC
L19          2 L15 AND (COMPUTER? OR PC)

=> d l19 1-2 pno
```

distribution data may also be **displayed** dynamically. A mouse allows the system operator to control real-time rotation of the model in three dimensions, and any surface can be hidden interactively for better viewing of the data. Control is also provided over the starting, stopping, reversing, and repeating of data, as well as over the frame rate for dynamic **displays**.

US PAT NO: 5,625,575 [IMAGE AVAILABLE] L7: 4 of 13
US-CL-CURRENT: 395/500.27
INVENTOR: Suresh Goyal, Chatham, NJ
Elliot N. Pinson, Watchung, NJ
Frank W. Sinden, Princeton, NJ

ABSTRACT:
Apparatus for modelling or simulating the dynamics of interacting rigid **bodies**. In the apparatus, the rigid **bodies** are represented as convex polyhedra. **Contacts** between the **bodies** are modelled as **contacts** between a face and a vertex or between edges. All other types of **contact** are reduced to these types. The beginning or end of a **contact** is determined by means of linear interpolation. The dynamics of the **contacts** are modelled as **contacts** between massless rigid surface **elements** which are connected by massless viscous layers to the **objects**. The viscous layer connecting a surface **element** to its **object** permits the surface **element** to move either perpendicular to or tangent to the plane of **contact**. The properties of the viscous layers determine the dynamics of the **contacts**. In the implementation, the properties are described by means of two systems of springs and dampers, one permitting motion in the perpendicular direction and the other motion in the tangential direction. Parameters of the spring and damper systems may be set as required to model **contacts** between various kinds of **objects**.

US PAT NO: 5,577,981 [IMAGE AVAILABLE] L7: 5 of 13
US-CL-CURRENT: 482/4; 73/379.01; 434/247; 482/902
INVENTOR: Robert Jarvik, 124 W. 60th St., New York, NY 10023

ABSTRACT:
This invention relates to computer controlled exercise machines and provides the user with a wide variety of interactive exercise options controlled by software. A virtual reality hybrid of virtual and real environments is provided which permits the user to perform significant physical exertion by applying **forces** to the machine while viewing images on a head mounted **display**. The invention permits the user to view his own hands and **body** superimposed over a computer generated image of **objects** that are not actually present while maintaining parts of the exercise machine that the user physically **contacts**, such as a handle, superimposed over the computer generated image. As the user exerts **forces** against the machine (such as the handle) he perceives that he is exerting **forces** against the **objects** the images represent. The invention includes a video camera and computer adapted to record images from the real world which may be combined with computer generated images while retaining the proper spacial orientation to produce a composite virtual reality environment. Virtual reality exercise regimens adapted to the user's individual capabilities, virtual reality exercise games, virtual reality competitive sports, and virtual reality team sports are disclosed.

US PAT NO: 5,573,716 [IMAGE AVAILABLE] L7: 6 of 13
US-CL-CURRENT: 264/40.7, 167, 175, 177.17, 210.1, 214, 339; 425/140, 325, 334, 378.1, 384, 391
INVENTOR: Theodore L. Jacobson, Pacifica, CA

ABSTRACT:
A method, process and apparatus for generating complex **shapes** without the use of dies, molds, or other fixed tooling. A continuous length or